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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Dale Scholtens

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EXAMINER

TSEGAYE, SABA

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/632,393

Applicant(s)

SCHOLTENS ET AL.

Examiner

Saba Tsegaye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. This Office Action is in response to the amendment filed on 11/05/04. Claims 1-16 and 20 are pending. Currently no claims are in condition for allowance.

Claim Rejections - 35 USC § 112

2. Claims 1-9 and 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 4, line 4; it is not clear whether “a packet network”, refers to the same packet network cited in line 3.

In claim 13 and 4, line 3, it is not clear whether “a packet network” refers to the same packet network cited in line 2.

Claim Rejections - 35 USC § 103

3. Claims 1-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITU-T Recommendation I.610, B-ISDN operation and Maintenance Principles and Functions, hereinafter referred to as I.610 in view of Brueckheimer et al. (US 6,519,257) hereinafter referred to as Brueckheimer.

Regarding claims 1 and 10, I.610 discloses a method/system of performing/executing a continuity check operation (see VPC continuity check, section 6.2.1.1.2 on page 15, and VCC continuity check; section 6.2.2.1.2 on page 20) comprising:

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-sending a pattern of bits over a packet network connection through a first interface on a packet network to a second interface on the packet network (sending a pattern of bits coded per figure 10/I.610 with OAM type and Function type coded for continuity check, and the Function specific field encoded 6AH; see section 7.2.3 through a first physical interface residing in end point A on the left of figure 2/I.610 for either the VPC or VCC);

-monitoring the first interface for return of the pattern of bits over the packet connection (monitoring the first interface of end node a when the connection is activated for bi-directional continuity check on connection A to B per section 6.2.3; see the last 9 lines on page 24);

- deciding whether the continuity check is successful based on whether the pattern of bits is detected at the first interface during the monitoring (the VPC sink-point does not receive a continuity check cell; line 7 on page 16, or the VCC sink-point does not receive a continuity check cell; line 12 on page 21).

However, I.610 does not expressly disclose a narrowband-to-packet network adapter having a bit pattern generator. The difference between the claimed invention and I.610 is that the claimed packet network supports narrowband calls.

Brueckheimer teaches a telecommunications system, including an ATM network, and a plurality of adaptive grooming routers (AGR) coupled to the network, where the AGR provides analogous integrity checks in existing narrow band exchanges which have, for example, a additional integrity pattern or other signaling schemes to ensure proper cross-connection of narrow band channels through the fabric (column 13, lines 20-36). Further, Brueckheimer discloses that a grooming AVJ has a natural loop back capability where it simply is grooming aggregated local traffic for the wide area network, there is traffic between its ATM domain and

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its TDM domain and then being mapped back into the ATM domain almost immediately (column 11, line 40-column 12, line 45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Brueckheimer of adding a narrowband-to-packet network adapter (AGR) having a bit pattern generator to the packet network of I.610. One would have been motivated to make this modification to allow interworking between existing narrowband networks and packet networks and to set-up narrow band connections across the ATM network based on the status of the network.

Regarding claim 2, I.610 further discloses providing a loop between incoming and outgoing packet streams associated with the packet network connection (VPC loop back capability; see section 6.2.1.1.3, or VCC loop back capability; see section 6.2.2.1.3).

Regarding claims 3 and 11, I.610 further discloses repeatedly sending the pattern of bits over the packet network connection during the monitoring (continuity check sent repetitively with a periodicity of one cell per second; line 5 of page 16 for a VPC, and line 10 of page 21 for a VCC).

Regarding claims 4 and 12, I.610 discloses the method of the parent claim 1, but fails to teach the continuity check is performed during a set-up process for a narrowband call over the packet network.

Brueckheimer teaches, in Fig. 20, the continuity check is performed during a set-up process for a narrowband call over the packet network (column 16, lines 1-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the packet network of I.610 with the teaching of Brueckheimer to perform a continuity check during a set-up process for a narrowband call over the packet network. One would have been motivated to make this modification to determine the current status of the system whereby to effect routing of narrow band traffic across the packet network.

Regarding claim 5, I.610 discloses the method of the parent claim 1, but fails to teach the call set-up process includes Signaling System 7 messages.

Brueckheimer teaches, in Fig. 1, the AGR node provides N-ISDN S7 signaling capability and call routing (column 4, lines 23-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the packet network of I.610 with the teaching of Brueckheimer to support narrowband calls using Signaling System 7 messages. One would have been motivated to make this modification to allow interworking between existing narrowband networks and packet networks and to control narrow band connections between specified endpoints.

Regarding claim 6, I.610 does not disclose a pattern of bits sent over the packet network connection includes a first byte all of whose bits are a first value and a second byte all of whose bits are a second different value.

However, it would have been an obvious matter of design choice to modify the I.610 reference by having the claimed bit patterns instead of the 6AH coding since applicant has not disclosed specific problems that these bit patterns solve, discloses that bit patterns may depend

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on the application (line 3 of page 10 the specification) and also discloses that other patterns can be generated (line 9 of page 10 of the specification).

Regarding claim 7, I.610 does not disclose a pattern of bits that includes multiple bytes each having multiple bits, wherein a single bit in each byte has a value that differs from all other bits in the byte, and wherein the bit having the different value is shifted by one position between adjacent bytes.

However, it would have been an obvious matter of design choice to modify the I.610 reference by having the claimed bit patterns instead of the 6AH coding since applicant has not disclosed specific problems that these bit patterns solve, discloses that bit patterns may depend on the application (line 3 of page 10 the specification) and also discloses that other patterns can be generated (line 9 of page 10 of the specification).

Regarding claim 8, I.610 does not disclose a pattern of bits that includes first and second bytes each of whose bits alternate in value, and wherein the value of the second byte is the complement of the value of the first byte.

However, it would have been an obvious matter of design choice to modify the I.610 reference by having the claimed bit patterns instead of the 6AH coding since applicant has not disclosed specific problems that these bit patterns solve, discloses that bit patterns may depend on the application (line 3 of page 10 the specification) and also discloses that other patterns can be generated (line 9 of page 10 of the specification).

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Regarding claim 9, I.610 discloses that the continuity check is considered a failure if the pattern of bits is not detected at the first interface during the monitoring within a specified period (within a time interval of 3.5 seconds; see lines 7-8 of page 16 for a VPC, and lines 12-13 of page 21 for a VCC).

Regarding claim 20, I.610 in view of Brueckheimer discloses all the claim limitations as defined in patent claim 1 except for a computer readable storage medium.

Those skilled in the art will appreciate that physical storage of the sets of instructions physically changes the medium upon which it is stored so that the medium carries machine-readable information.

Therefore, the system of I.610 in view of Brueckheimer could be modified to use a machine-readable storage medium.

It would have been obvious to one ordinary skill in the art at the time the invention was made to add a computer readable storage medium including computer-executable instructions into the system of I.610 in view of Brueckheimer. The benefit using computer-readable storage medium is that programs can be changed and upgraded and new features are added easily than hardware changes.

4. Claims 13, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckheimer in view of Nakayama.

Regarding claims 13 and 16, Brueckheimer discloses a communications system (see Figure 2) comprising

- A packet network (ATM); and

A first gateway (AGR) to adapt a narrowband to a packet network coupled to a first interface on the packet network configured to execute continuity operations (AVJ, see column 3, lines 20-48). Further, Brueckheimer discloses that a grooming AVJ has a natural loop back capability where it simply is grooming aggregated local traffic for the wide area network, there is traffic between its ATM domain and its TDM domain and then being mapped back into the ATM domain almost immediately. AGR provides analogous integrity checks in existing narrow band exchanges which have, for example, a additional integrity pattern or other signaling schemes to ensure proper cross-connection of narrow band channels through the fabric.

However, Brueckheimer fails to teach a pattern generator, a pattern detector, or deciding continuity check success.

Nakayama teaches a gateway, wherein the gateway includes a bit pattern generator and a bit pattern detector (pattern generator 114 and pattern checker 144 of **figure 41**, respectively), wherein the pattern generator is arranged to generate a pattern of bits to be sent over a packet network connection in the packet network (see column 35 lines 31-39), and the bit pattern detector is arranged to monitor return of the pattern of bits over the packet network connection (pattern checker 144 receives the test data see column 36 line 27), wherein the gateway is further configured to decide whether the continuity check is successful based on whether the generated pattern of bits is detected by the bit pattern detector (pattern checker 144 compares the received test data to the known test data, and if the data agree, judges that the path normal, see column 36 lines 27-31). Further, Nakayama teaches loop back in 151 of figure 41 that applies to receiving and judging the test pattern above in pattern checker 144, and applies to claim 14 below.

It would have been obvious to one of ordinary skill in the art to modify Brueckheimer's gateway to include Nakayama's pattern generator and pattern checker and would have resulted in the claimed invention, in order to have integral resources for continuity checks.

Regarding claim 14, Brueckheimer discloses a system as defined in patent claims 13 and 17, including a second gateway (AGR) coupled to a second interface on the packet network and configured to provide a loop between incoming and outgoing packet streams associated with the packet network connection (column 11, lines 48-53).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckheimer in view of Nakayama as applied to claim 13 above, and further in view of I.610.

Brueckheimer in view of Nakayama disclose the system defined in parent claim 13, in which the bit pattern is sent for a continuity check, but fail to teach sending the pattern of bits repeatedly over the packet network connection. I.610 teaches sending the pattern of bits repeatedly over the packet network connection (continuity check sent repetitively with a periodicity of one cell per second; line 5 of page 16 for a VPC, and line 10 of page 21 for a VCC).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brueckheimer in view of Nakayama with the teaching of I.610 to repeatedly send the bit pattern, in order to know that continuity is maintained after call connection for the duration that the call is in an active state.

Response to Arguments

6. Applicant's arguments filed 11/05/04 have been fully considered but they are not persuasive. Applicant argues (Remarks, page 7) that Brueckheimer et al. does not disclose or suggest the narrowband-to packet network adapter having a bit pattern generator. Examiner disagrees with Applicant contention. The rejection is based on the combination of I.610 reference and the Brueckheimer reference. The I.610 reference discloses a method of performing /executing a continuity check operation comprising sending a pattern of bits over a packet network. Brueckheimer teaches a set up narrow band connections across the ATM network based on current system status determination. Further, Brueckheimer teaches that the AVJ device can be dedicated to perform either a trucking function (termination of synchronous narrow-band circuits) or grooming function (generation of traffic for transmission across the WAN). The AVJ provides a means to ensure continual integrity checking on operations pertaining to network connectivity (column 13, lines 20-36; column 15, line 44-column 16, line 20).

Further, Applicant argues (page 8) that Nakayama does not suggest or disclose a gateway to execute continuity check operations between a narrowband and packet network and provides no suggestion or teaching of a communications system comprising a first gateway to adapt a narrowband to the packet network. Examiner respectfully disagrees with Applicant contention. The rejection is based on the combined teaching of the Brueckheimer and the Nakayama patents. The Nakayama reference teaches **an ATM interface device** which is capable of converting a data of another network to an ATM cell and vice versa. Further, Nakayama teaches a pattern generator that produces predetermined test data that is converted into an ATM cell. The Brueckheimer reference, discloses a first gateway (AGR) to adapt a narrowband to the packet

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network coupled to a first interface on the packet network configured to execute continuity operation (AVJ). The AVJ device can be dedicated to perform either a trucking function (termination of synchronous narrow-band circuits) or grooming function (generation of traffic for transmission across the WAN).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST

March 15, 2005

A handwritten signature in black ink, appearing to read 'J. Pezzlo', with a stylized flourish at the end.

JOHN PEZZLO
PRIMARY EXAMINER